**IN THE CLAIMS**

A listing of all claims and their current status in accordance with 37 C.F.R. § 1.121(c) is provided below.

1. (currently amended) A method for determining a heart rate in a pulse oximeter comprising:

determining a first heart rate from a pulse oximetry signal using a first method;

determining a second heart rate from the pulse oximetry signal using a second method;

evaluating a reliability of the first heart rate using metrics applied to the pulse oximetry signal ~~first method~~;

using the first heart rate when the metrics indicate the first method is reliable; and

using the second heart rate only when the metrics indicate that the first heart rate is unreliable.

2. (previously presented) The method of claim 1 comprising

determining that the first heart rate is unreliable when the metrics indicate that a most recent pulse is rejected.

3. (previously presented) The method of claim 1 wherein the first method does not use an ensemble averaged waveform, and the second method does use an ensemble averaged waveform.

4. (previously presented) The method of claim 1 wherein determining a first and second heart rate each comprise determining a pulse period, and comprising:

converting a pulse period used into a rate.

5. (currently amended) A pulse oximeter which determines a heart rate, comprising:

a first heart rate calculator for determining a first heart rate from a pulse oximetry signal using a first method;

a second heart rate calculator for determining a second heart rate from the pulse oximetry signal using a second method;

an evaluator configured to determine the reliability of the first heart rate using metrics applied to the pulse oximetry signal ~~first method~~; and

a selector configured to use the first heart rate when the metrics indicate said first method is reliable, and to use the second heart rate only when the metrics indicate that the first heart rate is unreliable.

6. (previously presented) The pulse oximeter of claim 5 wherein the selector determines that the first heart rate is unreliable when the metrics indicate that a most recent pulse is rejected.

7. (previously presented) The pulse oximeter of claim 5 wherein the first heart rate calculator does not use an ensemble averaged waveform, and the second heart rate calculator does use an ensemble averaged waveform.

8. (currently amended) A pulse oximetry system comprising:

a sensor adapted to provide a signal related to a physiological constituent; and

a monitor adapted to process the signal to determine a pulse period, the monitor comprising:

software adapted to determine a first pulse period from the signal using a first method;

software adapted to determine a second pulse period from the signal using a second method;

an evaluator configured to determine the reliability of the first pulse period using metrics applied to the pulse oximetry signal ~~first method~~; and

a selector configured to use the first pulse period when the metrics indicate the first method is reliable, and to use the second pulse period only when the metrics indicate that the first pulse period is unreliable.

9. (previously presented) The system of claim 8 wherein the first method does not use an ensemble averaged waveform, and the second method does use an ensemble averaged waveform.

10. (previously presented) The system of claim 8 wherein the first pulse period or the second pulse period is converted into a heart rate.

11. (currently amended) A method for determining a heart rate in a pulse oximeter comprising:

determining a first pulse period from a pulse oximetry signal using a first method;

evaluating a reliability of the first pulse period using metrics applied to the pulse oximetry signal;

determining a second pulse period from the pulse oximetry signal using a second method only when the metrics indicate that the first pulse period is unreliable;

converting the first pulse period into a heart rate when the metrics indicate that the first pulse period is reliable; and

converting the second pulse period into a heart rate only when the metrics indicate that the first pulse period is unreliable.

12. (previously presented) The method of claim 11 comprising

determining that the first pulse period is unreliable when the metrics indicate that a most recent pulse is rejected

13. (previously presented) The method of claim 11 wherein the first method does not use an ensemble averaged waveform, and wherein the second method does use an ensemble averaged waveform.

14. (new) The method of claim 1, wherein a filter weight is determined based at least in part on the metrics.

15. (new) The method of claim 4, comprising updating the pulse period using a pulse-based variable-weight filter.

16. (new) The pulse oximeter of claim 5, wherein the first heart rate calculator and the second heart rate calculator determine a pulse rate by determining a pulse period.

17. (new) The pulse oximeter of claim 16, wherein the heart rate calculator used for the pulse rate updates the pulse period using a pulse-based variable-weight filter.

18. (new) The pulse oximeter of claim 5, comprising a weighted filter, wherein a filter weight is determined based at least in part on the metrics.

19. (new) The method of claim 11, wherein a filter weight is determined based at least in part on the metrics.

20. (new) The method of claim 11, comprising updating a first pulse period or a second pulse period using a pulse-based variable-weight filter.